

REMARKS

Claim 17 has been revised to correct two minor errors in the last subparagraph of the claim. The changes are of a housekeeping variety and are not intended to be changes that limit the claim.

The Examiner again is requested to acknowledge the Request for Approval of Drawing change filed August 28, 2001.

The rejections of claims 11, 13, 16, 17, 20, and 21 under 35 USC 103 as unpatentable over Yoshimura et al. '031 in view of EP '460, claims 14 and 15 under 35 USC 103 as unpatentable over Yoshimura '031 and EP '460 further in view of Ludwig, Jr. et al. '205, and claim 19 under 35 USC 103 as unpatenable over Yoshimura et al. '031 and EP '460 further in view of Ananian '090 are respectfully traversed.

Applicants believe that the arguments presented for patentability and appearing in the Remarks section of the Amendment Under 37 CFR 1.111 filed May 29, 2002 are still appropriate and direct the Examiner's attention thereto for a full development of the arguments against all of the prior art rejections.

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There are two issues presented in the Response to Arguments section appearing at pages 7 and 8 of the Final Rejection. Those issues are addressed below.

With respect to the use of statements in US patent 6,241,181 applicants point out that the reference is not prior art to them; indeed, it is the parent patent of the instant application. Thus, the Examiner is not permitted to rely upon that reference to show what is allegedly known in the prior art.

The Examiner also states that the placement of black stripes is done to prevent a light eclipse due to the peak portion on the entrance side of the lenticular lens. Applicants address that comment as follows.

In applicants' invention (see claims 11 and 17), the entrance lens part (12) of the "double-sided" lenticular lens sheet (10) is provided with a tinted layer (13) that covers at least a portion thereof near the entrance surface (11) of the lenticular lens sheet (10). Therefore, it is possible effectively to eliminate the stray light rays, which are caused by the lens element of the exit lens part (17) (see instant Fig. 7), while removing the external light, which is incident from oblique directions (see instant Fig. 2).

Applicants point out that the most important feature of the present invention is the ability to eliminate the stray light rays in the lenticular lens sheet (10), a problem peculiar to the "double-sided" lenticular lens sheet (10) with an exit lens part (17).

As can be seen from instant Fig. 8, in a "double-sided" lenticular lens sheet as the present invention or Yoshimura et al. '031, a part of the incident image light rays (C) that fall on the entrance lens part (62) is reflected by the exit lens part (67) and travels in the lenticular lens sheet in stray light rays (C5 and C6).

On the contrary, in the "single-sided" lenticular lens sheet as EP '460, which has no exit lens part, most of the incident image light rays that fall on the entrance lens part travel through the lenticular lens sheet and go out of the same without causing stray light rays.

One skilled in the art would have no motivation to apply the tinted layer of EP '460 to a "double-sided" lenticular lens sheet of Yoshimura et al. '031 because there is no teaching or suggestion in the former that the tinted layer is effective for eliminating the stray light rays.

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In this connection, applicants acknowledge that the tinted layer, which is incorporated into the "double-sided" lenticular lens sheet, involves a function of removing the external light incident from oblique directions.

However, this function can be subsidiarily obtained with respect to the external light incident from oblique directions; as for the regular external light incident from directions (including the directions perpendicular to the lenticular lens sheet) other than the oblique directions, the necessity for reducing the regular external light has not been recognized, because the regular external light can be sufficiently reduced by the conventional arrangements of the "double-sided" lenticular lens sheet (the exit lens part and the BS (black stripes)).

Namely, in the "double-sided" lenticular lens sheet, half of the external light that falls perpendicularly on the lenticular lens sheet from a viewing-side is absorbed by the absorbing layer. The other half of the external light penetrating the exit lens part travels through the lenticular lens sheet and goes out of the lenticular lens sheet without undergoing total reflection (see instant Fig. 6).

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Therefore, it has been common sense that it is not necessary for the "double-sided" lenticular lens sheet to have a special means for reducing the external light; see the instant specification at page 9, lines 16 to 24.

While black stripes can prevent a light eclipse due to the peak portion on the entrance side of the lenticular lens, it is also true that black stripes can prevent light incident on the viewer's side of the screen as discussed in the instant application at lines 16 to 19 of page 9.

In view of the foregoing remarks, it is respectfully submitted that the claimed subject matter patentably defines over the cited art and a USPTO paper to those ends is earnestly solicited.

The Examiner is requested to telephone the undersigned if additional changes are required in the case prior to allowance.

Respectfully submitted,

PARKHURST & WENDEL, L.L.P.

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Date

Charles A. Wendel
Charles A. Wendel
Registration No. 24,453

CAW/ch
Attorney Docket No.: DAIN:518A
PARKHURST & WENDEL, L.L.P.
1421 Prince Street, Suite 210
Alexandria, Virginia 22314-2805
Telephone: (703) 739-0220

MARKUP

17. (Twice Amended) A rear projection screen comprising:
a lenticular lens sheet having an entrance surface and an exit surface; and
a Fresnel lens sheet disposed opposite to the entrance surface of the lenticular lens sheet facing an image light source,
wherein the lenticular lens sheet has: a base part;
an entrance lens part forming the entrance surface of the lenticular lens sheet and having an array of a plurality of convex lens elements capable of gathering light rays;
an exit lens part forming the exit surface of the lenticular lens sheet and having an array of a plurality of lens elements formed respectively in light-gathering regions in which light rays refracted by the convex lens elements of the entrance lens part gather; and a light absorbing layer formed in light-nongathering regions in the exit surface of the lenticular lens sheet in which light rays refracted by the convex lens elements of the entrance lens part do not gather[;], the entrance lens part being provided with a tinted layer at [last] least in a portion thereof near the entrance surface of the lenticular lens sheet.